

STATEMENT ON THE USE OF THE ESDEC CLICKFIT EVO ROOF HOOK IN HIGH SNOW LOAD AREAS

Important conditions

- The roof tiles that were tested at BDA (KIWA certified) are: Novo+, OVH206, RBB, OVH, VH-V, Benders Palema. The tiles were tested to failure (cracking). The conclusion was that the tiles are not the limiting factor in the system.
- Where snow fences or other obstructions exists or where the lower edge of the roof is terminated with a parapet, preventing the snow from (partly) sliding of the roof, the values in the category $15^\circ < \alpha < 35^\circ$ must be used!
- The wind load is not taken into account to determine the amount of roof hooks shown in Table 2 and Table 3. When the ESDEC calculator states to use a higher amount of roof hooks, this amount must be used! Also Refer to Table 1.

Panel orientation	Rail orientation	Wind area			
		Minimum	Low	Normal	High
Landscape	Horizontal	3.2	3.2	3.2	3.6
Landscape	Vertical	3.0	3.0	3.0	4.0
Portrait	Horizontal	2.0	2.4	2.8	3.6
Portrait	Vertical	4.0	4.0	4.0	4.0

Table 1; Indication of the amount of roof hooks for different wind areas

Determining the amount of roof hooks

ClickFit EVO roof hooks can be used with different height adjustments (refer to Figure 1). ESDEC strongly advises to use the ClickFit EVO roof hook in the lowest position to limit the required amount of roof hooks (refer to Table 2). The amount of roof hooks depends on the Snow load zone (refer to BS EN 1991-1-3:2003(E) / Appendix I) and the roof angle (α).

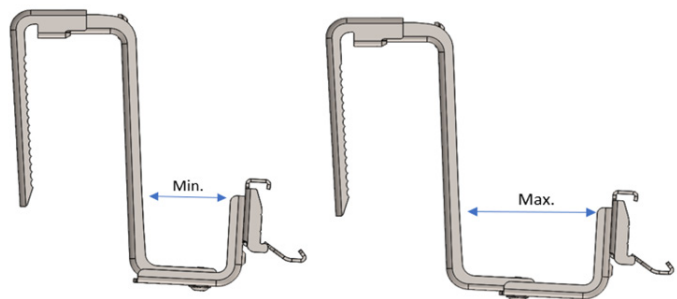


Figure 1; ClickFit EVO roof hook in its lowest and highest position

Amount of ClickFit EVO roof hooks when used in lowest position (advised)

Snow load zone [kN/m ²]	15° ≤ α < 35°		35° ≤ α < 40°		40° ≤ α < 45°		45° ≤ α ≤ 60°	
	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel
1.0	1320	WL	1100	WL	880	WL	660	WL
1.5	1980	WL	1650	WL	1320	WL	990	WL
2.0	2640	2.1	2200	WL	1760	WL	1320	WL
2.5	3300	2.6	2750	2.2	2200	WL	1650	WL
3.0	3960	3.2	3300	2.6	2640	2.1	1980	WL
3.5	4620	3.7	3850	3.1	3080	2.5	2310	WL
4.0	5280	4.2	4400	3.5	3520	2.8	2640	2.1

Table 2; Amount of roof hooks when used in lowest position. (WL: Wind load is always leading.)

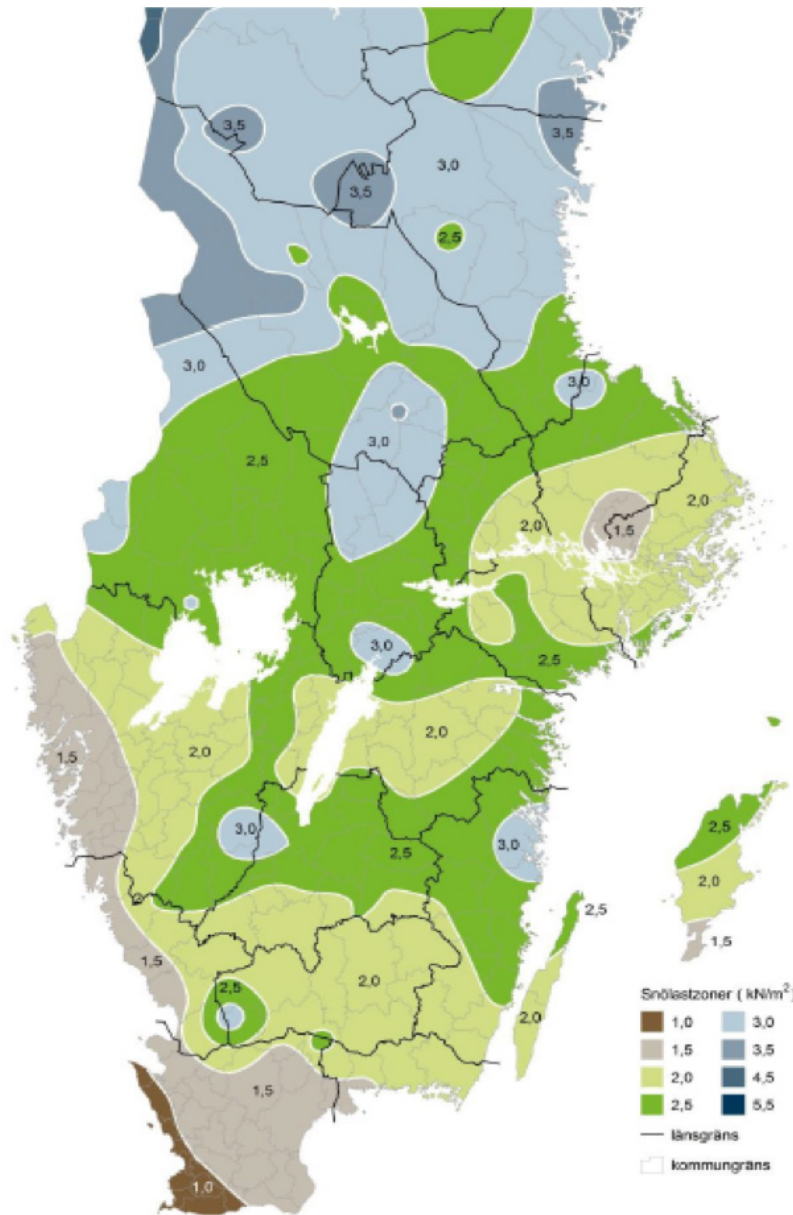
In case the roof hooks are used in its highest position the amount will be higher (refer to Table 3).

Amount of ClickFit EVO roof hooks when used in highest position (not advised)

Snow load zone [kN/m ²]	15° ≤ α < 35°		35° ≤ α < 40°		40° ≤ α < 45°		45° ≤ α ≤ 60°	
	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel	Snow load per panel [N]	Hooks per panel
1.0	1320	WL	1100	WL	880	WL	660	WL
1.5	1980	2.0	1650	WL	1320	WL	990	WL
2.0	2640	2.6	2200	2.2	1760	WL	1320	WL
2.5	3300	3.3	2750	2.8	2200	2.2	1650	WL
3.0	3960	4.0	3300	3.3	2640	2.6	1980	2.0
3.5	4620	4.6	3850	3.9	3080	3.1	2310	2.3
4.0	5280	5.3	4400	4.4	3520	3.5	2640	2.1

Table 3; Amount of roof hooks when used in highest position. (WL: Wind load is always leading.)

APPENDIX 1



(BFS 2015:6).

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